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DISAPPROVAL OF REMOVAL ACTION NUMBER 14 WORK PLAN, CONTAMINATED SOILS ADJACENT TO THE SEWAGE TREATMENT PLANT

02-25-92

USEPA/DOE-FO
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LETTER

R-015-707.1

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

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FEB 25 1992

REPLY TO THE ATTENTION OF:

HRE-8J

Mr. Jack R. Craig
United States Department of Energy
Feed Materials Production Center
P.O. Box 398705
Cincinnati, Ohio 45239-8705

RE: Disapproval of Removal Action Number 14 Work Plan, Contaminated Soils Adjacent to the Sewage Treatment Plant

Dear Mr. Craig:

The United States Environmental Protection Agency (U.S. EPA) has completed its review of the Removal Action Number 14 Work Plan, Contaminated Soils Adjacent to the Sewage Treatment Plant.

U.S. EPA hereby disapproves the Work Plan pending incorporation of responses to the attached comments.

Please contact me at (312/FTS) 886-0992 if you have any questions.

Sincerely,

James A. Saric
Remedial Project Manager

Enclosure

cc: Graham Mitchell, OEPA-SWDO
Pat Whitfield, U.S. DOE-HDQ

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ATTACHMENT

CONTAMINATED SOILS ADJACENT TO THE SEWAGE TREATMENT PLANT REMOVAL ACTION NO. 14 WORK PLAN REVIEW COMMENTS

The Department of Energy (DOE) conducted a Removal Site Evaluation (RSE), dated October 1990, entitled "Contaminated Soils Adjacent to the Sewage Treatment Plant" to determine whether or not a removal action (RA) would be necessary. Based on the RSE, DOE issued an Action Memorandum stating that an RA was necessary. On September 20, 1991, the DOE and the U.S. Environmental Protection Agency (EPA) jointly signed an Amended Consent Agreement establishing milestones for the implementation of Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) response actions at the Fernald Environmental Management Project (FEMP) site in Cincinnati, Ohio. As a result of its Action Memorandum and in accordance with the Amended Consent Agreement, DOE submitted a work plan for conducting the RA for contaminated soils adjacent to the sewage treatment plant (RA No. 14). The document was reviewed for technical adequacy, adherence to the Amended Consent Agreement, CERCLA requirements, and to applicable federal guidance.

GENERAL COMMENTS

1. The RA work plan is incomplete. The work plan should include a sampling plan or specific details required for quality assurance (QA) protocols. At a minimum, the work plan should include the components noted below in Specific Comment No. 8. Also, QA criteria should specifically reference an approved QA project plan (QAPjP) or provide the equivalent information in the work plan (see Specific Comment No. 8).

2. DOE proposes using a target level of 100 picocuries (pCi) per gram (g) total uranium as a cleanup level based on correlation with an excess individual lifetime cancer risk of $1x10^{-4}$. This approach is not valid, because the cleanup level will be measured using a field screening device; it will not verified by laboratory analyses. In addition, multiple exposure scenarios using multiple contaminants must be used to establish cleanup goals consistent with CERCLA. Finally, this target

[redacted]

level appears to be inconsistent with Nuclear Regulatory Commission (NRC) Branch Technical Position (BTP) criteria for on-site disposal or storage of wastes without a permit (FR 52061). These criteria are pertinent because soils will be excavated and stored on-site and residual soils will be covered, graded, and seeded without analytical verification in excavated areas. The applicable NRC BTP criteria must be considered and specifically addressed within this work plan.

3. The RA work plan does not include any contingency for reporting to EPA. Three phases of work may be conducted. The third phase will be based on the findings of the first two. The RA work plan must include an interim report (after completion of Phase 2 work activities) and a final report (if applicable, after Phase 3 work activities).

4. This work plan should include a sampling plan (by reference or by inclusion) which includes specific procedures for sampling and analysis. If sampling and analytical methods will adhere to standard operating procedures (SOP) or methods included in the RI/FS QAPjP, then these methods or SOPs should be specifically referenced.

5. QA criteria should be specifically included or specifically referenced. QA criteria should include the following: (1) data quality objectives; (2) analytical parameters and procedures; (3) QA objectives for quantitative limits, precision, accuracy, completeness, representiveness, and comparability; (4) calibration procedures and frequency; (5) sample custody, preservation, containerization, and holding time procedures; (6) field QA sampling procedures and frequency for trip blanks, field blanks, and field duplicates; (7) sampling network rationale and design; (8) internal quality control checks; (9) data reduction, validation, and reporting procedures; (10) system and performance audits; (11) preventative maintenance procedures; (12) specific routine procedures used to assess data precision, accuracy, and completeness; (13) corrective action protocols; and (14) QA reports to management.

SPECIFIC COMMENTS

1. Section 2.0, page 9, second full paragraph: DOE uses a risk-based approach to establish a cleanup target of 100 pCi/g total uranium in soil. DOE also states that a handheld radiological instrument can be approximately correlated to this cleanup level. However, DOE does not indicate how cleanup criteria will be verified using laboratory data. EPA believes that field screening criteria should be taken into account along with laboratory analyses to verify that the screening procedure is appropriate. This verification can be accomplished by obtaining samples during excavation, analyzing them for radiological parameters, and comparing the field screening criteria and laboratory analyses results.

2. Section 2.1, page 10, second full paragraph: [As noted in Specific Comment No. 1 above], DOE should indicate how field screening measurements will be verified with analytical results. This is particularly important to verify that NRC BTP removal criteria are met in areas where excavated areas will be covered, graded, and seeded.

3. Section 2.1, page 11, first full paragraph: The waste determination should also address compliance with the NRC BTP criteria (FR 52061). Also, the method for obtaining representative samples should be provided.

4. Section 2.1, page 11, second full paragraph: DOE's current approach appears to consist of the following actions: (1) excavate soils based on field screening results; (2) cover and reseed excavated areas; and (3) sample soils to verify that removal is complete. The excavated areas must be sampled to assure that NRC BTP criteria are met before recovering the excavated areas.

5. Section 2.1, page 11, second full paragraph: EPA notes that DOE plans excavation in areas with existing permanent structures, yet no provision is made in the work plan for evaluating structural stability before excavation or for indicating that structures may need engineered support

during excavation. DOE must indicate how permanent structures will be maintained during excavation.

6. Section 2.1, page 11, third full paragraph: As noted above (see specific Comment No. 4), sampling activities must take place before excavated areas are covered. EPA notes that only ten of the 40 samples will be analyzed for hazardous substance list (HSL) compounds; however, most of the proposed sampling locations are outside of the sewage treatment plant area. Sampling within the sewage treatment area should be conducted, if HSL contamination is associated with its former operations. The rationale for sampling and HSL sample locations must be provided. Further, the current sampling approach does not include any screening process sensitive to HSL compounds, such as a photoionization detector (PID) to target suspect samples. The work plan should identify sampling locations for HSL analysis with a screening procedure (such as by using a PID or visual evidence of contamination).

7. Section 2.3, page 11, fourth full paragraph: DOE proposes two phases of excavation or study followed by a possible third phase of removal or study. DOE must include some reporting vehicle to allow EPA to evaluate the effectiveness of the RA. It might be appropriate to submit a combined Phase 1/Phase 2 report after the completion of these two interrelated phases. DOE should provide a description of report contents and a schedule for its submittal of report deliverables. Similarly, if a third phase of excavation or study is conducted, a final report must be submitted that is subject to EPA comment and approval.

8. Section 4.0, page 13, first full paragraph: This section consists of general references to two generic QAPjPs: the site QAPjP and the remedial investigation/feasibility study (RI/FS) QAPjP. It should be noted that this RA is not being conducted as part of the RI/FS, and therefore DOE should not reference the RI/FS QAPjP in a general manner because such a reference is not adequate.

COMMENTS ON THE FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
"CONTAMINATED SOILS ADJACENT TO THE SEWAGE TREATMENT PLANT,
REMOVAL ACTION NUMBER 14 WORK PLAN"
FEBRUARY 1992

Specific Comments:

Page 6, section 1.3, para. 4, sent. 5--With regard to the core samples taken within the Sewage Treatment Plant compound, some explanation should be given as to the "considerable disturbances within the compound" since we are not presently able to "physically observe reasons for potential depth penetration."

Page 7, section 1.4--40 CFR 300.415 (b)(2)(iv) is misquoted. It should read "High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate." This misquote is repeated in the Removal Site Evaluation, page 7, section 4.0.

Page 9, section 2.0, para. 2--The method by which the correlation (permitting the real-time approximation of soils exhibiting greater than 100 pCi/g of total uranium) is established should be clearly outlined in this work plan. This should include a dose estimate assessment for total uranium at a specified distance for which all radiological measurements would be taken and the method for establishing the action level for the instrumentation used. The survey instrumentation intended for use, in addition to the 2"x2" NaI detector, should also be listed.